

ALIEN PLANTS GROWING WITHOUT CULTIVATION IN THE SOMERSET WEST NEIGHBOURHOOD.

By R. N. PARKER.

On coming to Somerset West in 1939 the large number of exotic plants established in the country seemed to me very noticeable. A number of these are described in the *Flora Capensis*. In the following list of aliens I have observed, those not described therein are marked with an asterisk. Some of these additional species had doubtless been overlooked or not collected at the time the *Flora Capensis* was written, but many appear to be recent introductions.

In the *CRUCIFERAE* of 12 species only 2 are described in the *Flora Capensis* published in 1859—60. In the *LEGUMINOSAE*, of 24 species 6 are described in the *Flora Capensis* published in 1861—62. In the *GRAMINEAE*, of 44 species 37 are described in the *Flora Capensis* published in 1899—1900. It seems therefore that the alien flora is steadily increasing.

The country of which these aliens are native has been indicated as far as possible. Of the 215 species listed, 137 are from Europe or the Mediterranean region, approximately half from each of these two areas, which however cannot be sharply distinguished. This amounts to 63 per cent of the total. The next largest contribution has come from tropical and sub-tropical America, approximately 15 per cent.

W. W. Robbins (*Bulletin* 637, University of California, Berkeley, California, 1940) lists 526 species of aliens in California of which 72 per cent are from Europe and Western Asia and 10 per cent are from S. America. The alien floras of California and the Winter Rainfall area of S. Africa are remarkably similar. More than half of the species in the following list are also naturalized aliens in California. The similarity extends to the families as well as to the species. The families best represented and the number of species in each are:

<i>South Africa</i>	<i>California</i>
Gramineae . . 44	Gramineae . . 111
Compositae . . 24	Compositae . . 96
Cruciferae . . 12	Cruciferae . . 43
Leguminosae 24	Leguminosae 28
Caryophyllaceae 10	Caryophyllaceae 21
Chenopodiaceae 9	Chenopodiaceae 17

Robbins suggests that the large proportion of European weeds in California is due to the human population having mainly come from Europe and to the similarity of the climates of the Mediterranean region and of California. Neither explanation seems to me to cover the facts completely as regards the alien flora of South Africa. Australia, which has provided 18 species, has only contributed one annual (*Apium leptophyllum* F. v. M.), a South American plant said to be also indigenous to Australia. Similarity of climate explains why Australia should have provided over 40 per cent of the introduced trees and shrubs but leaves the absence of annuals unexplained. The tropical and sub-tropical American area, which has made practically no contribution to the human population, is nonetheless an important source of weeds.

The introduced herbaceous plants are mostly weeds of cultivation. Agriculture started somewhere in the area of the Eastern Mediterranean, including Egypt and Western Asia. It also arose independently at a later date in the highlands of America from Mexico to Peru. Certain plants in these areas, finding conditions suitable, or, perhaps, becoming adapted to conditions produced by agricultural operations, became weeds of cultivation. When agriculture spread to new areas these weeds would find conditions equally suitable. The Mediterranean area and Europe, being the oldest and largest continuous area of cultivation, would naturally produce the greatest number of weeds. The highlands of America from Mexico to Peru, being a later agricultural area and also more disconnected, provide a much smaller, though still important, number of weeds. Australia with no indigenous agriculture, contributes only one weed which may have come to South Africa direct from South America.

This list of aliens was started before the Flora of the Cape Peninsula was published and most of the species enumerated will be found in that work, as well as many others which do not seem to have reached as far inland as Somerset West. As aliens enter a country mainly through the ports and take time to spread, it is natural that more should be found near the ports than further inland.

I wish to acknowledge assistance in identification to the late Drs. Fernald and Pennel, and to Dr. Piper Smith, C. E. Hubbard and to my nephew, P. Brennan, Kew.

(Note.—The numbers in the following list refer to specimens collected and sent to the Bolus Herbarium, Cape Town University.)

RANUNCULACEAE.

***Ranunculus muricatus** Linn. 4464. A garden weed in Somerset West. Mediterranean.

PAPAVERACEAE.

- ***Argemone mexicana** Linn. **Mexican Poppy.** Roadside weed. Not common. Tropical and sub-tropical America.
- ***Fumaria capreolata** Linn. 4818. **Ramping Fumitory.** In woods and shady places. Mediterranean.
- Fumaria muralis** Sond. **Fumitory.** A common weed of gardens and cultivation. Mediterranean.
- ***Papaver dubium** Linn. **Long-head Poppy.** On a farm near Somerset West. Europe.
- Two other species of poppy (**P. rhoeas** Linn and **P. hybridum** Linn). are found in cornfields in the Malmesbury division and are likely to occur.

CRUCIFERAE.

- Alyssum maritimum** (Linn.) Lamk. **Sweet Alison.** On sand dunes at Strand and occasionally on road sides as a garden escape. Mediterranean.
- ***Brassica Tournefortii.** Gouan. 3594. Common along the coast from Strand to Gordons Bay, both as a garden weed and on the sand dunes. Mediterranean.
- Coronopus didymus** (Linn) Sm. 3769. **Wart Cress.** Common as a garden weed and on waste ground. South America, now cosmopolitan.
- ***Diploaxis muralis** (Linn.) DC. 4587. **Wall- or Sand-mustard.** On sand dunes at Strand. Europe.
- ***Lepidium bonariense** Linn. 4673. On sand dunes at Strand. South America.
- ***Matthiola incana.** R. Br. **Stock.** On the sea shore at Strand. A garden escape doubtfully established. Mediterranean.
- ***Raphanus raphanistrum** Linn. 3568. **Wild Radish.** A very common weed. Europe.
- ***Raphanus sativus** Linn, 4507. **Radish.** On roadsides and waste places, occasional. Europe.
- ***Rapistrum rugosum** (Linn.) All. 3945. A common ruderal usually with one-seeded fruits. Mediterranean.
- ***Sinapis arvensis** Linn. 4508. **Charlock.** Waste places, not common. Europe.
- ***Sisymbrium officinale** Linn. 4275. **Hedge Mustard.** In cultivation, pasture and on road-sides, frequent. Europe.
- ***Sisymbrium orientale** Linn. 4127. A common road-side weed in Gordons Bay. Mediterranean.

PITTOSPORACEAE.

- **Pittosporum undulatum* Vent. Common along the Lourens River and occasionally found near other streams in moist shady places. Australia.

VIOLACEAE.

- **Viola odorata* Linn. **Sweet Violet.** In moist woods near Stellenbosch. Europe, Asia, N. Africa.

CARYOPHYLLACEAE.

- Cerastium viscosum* Linn. 3906. **Mouse-eared Chickweed.** A common weed of cultivation and gardens. Europe.
- Polycarpon tetraphyllum* Linn. 3555. **All-seed.** Common on paths and dry disturbed ground. Europe.
- **Sagina apetala* Linn. 3941. **Common Pearlwort.** A weed of moist places such as seed boxes, flower pots and well watered lawns. Europe.
- **Sagina procumbens* Linn. In similar places to the above. Europe.
- Silene gallica.* Linn. 3898. **Windmill Pink.** A common weed of cultivation. Europe.
- **Silene latifolia* (Mill.) Brit. and Rendle. **Bladder Campion.** Jonkershoek, not far from habitation. Europe, Asia.
- Spergula arvensis* Linn. 3894. **Spurry.** Weed of cultivation on sandy soil, frequent. Europe.
- Spergularia rubra* (Linn.) Presl. 4793. **Sand Spurry.** On sandy soil at Strand. Not common. Europe.
- Stellaria media* (Linn.) Vill. **Chickweed.** A very common garden weed. Europe.
- **Tunica prolifera* (Linn.) Scop. 4268. *Kohlrauschia prolifera* (Linn.) Kunth. Local and common where it occurs. Strand. Mediterranean.

PORTULACACEAE.

- Portulaca oleracea* Linn. 3552. **Purslane.** A common weed of cultivation. Europe.

MALVACEAE.

- **Lavatera arborea* Linn. **Tree Mallow.** Occasional both on the sea shore and inland on road-sides. Mediterranean.
- **Lavatera cretica* Linn. 4674. **Cretan Mallow.** Common in weedy places, especially near the sea. Mediterranean.
- Malva parviflora* Linn. 4015. **Mallow.** A common weed of road-sides and cultivation. Southern Europe, Western Asia.

ZYGOPHYLLACEAE.

Tribulus terrestris Linn. 4563. Waste places, not common. Known in California as the **Puncture Vine** as the fruits readily puncture the tyres of bicycles ridden across country on footpaths. Mediterranean, but now cosmopolitan in warm climates.

GERANIACEAE.

Erodium malachoides (Linn.) Willd. In shady places near the sea. Kogel Bay. Mediterranean.

Erodium moschatum L'Herit. 3903. **Heron's Bill.** A very common weed of gardens and waste places. A good fodder plant. Mediterranean.

Geranium dissectum Linn. 4443. **Cut-leaved Crane's Bill.** A common garden weed. Europe.

Geranium molle Linn. 4082. **Dove's Foot Crane's Bill.** Shady places at Jonkershoek. Europe.

OXALIDACEAE.

Oxalis corniculata Linn. A weed of gardens, not very common. Possibly originally from Europe but now cosmopolitan.

***Oxalis latifolia** H.B.K. A garden weed not well established as yet but imported from time to time with plants from Natal. Mexico.

TROPAEOLACEAE.

***Tropaeolum majus** Linn. **Nasturtium.** Frequent in moist shady places along roads or under trees. South America.

LEGUMINOSAE.

***Acacia Baileyana** F. v. M. Occasionally self-sown but not aggressive. Australia.

***Acacia cyanophylla** Lindl. The commonest of the naturalized species, often found in pure stands of considerable extent. Australia.

***Acacia cyclops** A. Cunn. Common especially near the sea on sand. Australia.

***Acacia decurrens** Willd. Several forms of this variable species are seen in cultivation one of which var. *mollis* Lindl. is naturalized. Australia.

***Acacia longifolia** Willd. Often common along streams. Australia.

***Acacia melanoxylon** R. Br. **Blackwood.** In wooded areas having spread by root suckers from planted trees. Australia.

***Acacia pycnantha** Benth. 3517. **Golden Wattle.** Found in several places but not aggressive. Australia.

- ***Albizzia distachya** (Vent.) MacBride 4206. Likes moist ravines where it sometimes grows in dense thickets. **A. Lophantha** (Willd.) Benth. Australia.
- ***Cytisus monspessulanus** Linn. Freely self-sown on a farm on the Helderberg. Mediterranean.
- ***Lathyrus latifolius** Linn. 4356. **Perennial Pea**. In moist shady places near Stellenbosch. Mediterranean.
- ***Lupinus angustifolius** Linn. 3525. **Blue Lupin**. Common on road-sides and near cultivation. Mediterranean.
- ***Lupinus luteus** Linn. **Yellow Lupin**. In similar places to the above, but not as common. Mediterranean.
- ***Medicago Aschersoniana** Urb. 4806. On sand at Strand, not common. N. Africa.
- Medicago hispida** Gaertn. 3767. **Medick**. A very common weed. Europe.
- Medicago sativa** Linn. **Lucerne**. An occasional escape from cultivation. S. Europe.
- Melilotus indicus** All. **Melilot**. A common weed originally European, now cosmopolitan.
- Trifolium angustifolium** Linn. Common and locally abundant on road-sides and waste ground. Europe.
- ***Trifolium campestre** Schreb. **Hop Clover**. Common. Europe.
- ***Trifolium dubium** Sibth. 3880. **Lesser Yellow Clover**. A common weed of lawns, also in pasture land. Europe.
- ***Trifolium glomeratum** Linn. 3611. **Clustered Clover**. In similar places to the above and almost as common. Europe.
- ***Trifolium subterraneum** Linn. 4528. In farmland on the Helderberg, spreading into indigenous vegetation. Europe.
- Vicia atropurpurea** Desf. 3600. **Purple Vetch**. On road-sides and in hedges, common. Europe.
- ***Vicia hirsuta** (Linn) S. F. Gray. 3730. **Tiny Vetch**. A common garden weed. Europe.
- Vicia sativa** Linn. 3602. **Common Vetch**. In cultivated ground and pasture, sometimes growing in dense masses. Europe.

ROSACEAE.

- ***Cydonia oblonga** Mill. 3839. **Quince**. Established in shady places near Somerset West and Stellenbosch. Persia to Turkestan.
- ***Pyracantha angustifolia** (Franch.) Schneid. **Fire Thorn**. In shady woods near Somerset West. China.

MYRTACEAE.

- Eucalyptus**. Most of the species of this genus commonly planted will regenerate if the ground nearby is ploughed and left fallow or if

the vegetation near seed bearing trees is burnt. Mrs. Levyns in *Guide to the Flora of the Cape Peninsula* mentions **E. globulus** Labill. and **E. Lehmannii** Preiss. as naturalized in the Cape Peninsula. Both these may be found growing spontaneously in Somerset West, but the following have better claims to be considered naturalized:

- ***Eucalyptus cladocalyx** F. v. M. **Sugar Gum**. Often seen growing in dense thickets. S. Australia.
- ***Eucalyptus grandis** Hill. **E. saligna** Auct. **Flooded Gum**. Prefers moister sites than the Sugar Gum and is found along the upper reaches of the Lourens river and in ravines of the Helderberg. E. Australia.
- ***Eucalyptus occidentalis** Endl. **Flat-topped Yate**. Not much planted but where it has been it regenerates very freely after fire. Often flowers when quite small. W. Australia.
- ***Eugenia Jambos** Linn. **Rose Apple**. Common along a stream at Sir Lowry's Pass village. In swampy places at Somerset West. Burma to Java.
- ***Leptospermum laevigatum** F. v. M. **Australian Myrtle**. Occasional on sandy soil. Australia.

ONAGRACEAE.

- ***Oenothera affinis** Cambass. 4390. (**O. Berteriana** Spach.) Fairly common on road-sides near Faure, between Somerset West and Stellenbosch and near Paarl. S. America.
- Oenothera biennis** Linn. **Evening Primrose**. In fields near Stellenbosch, not common. N. America.
- ***Oenothera indecora** Cambass. 4839. A garden weed in Faure and Somerset West. S. America.
- ***Oenothera rosea** Ait. 3539. A common weed in gardens, less frequent outside gardens as it needs more moisture than the other introduced species. Central America.
- ***Oenothera stricta** Ledeb. 4849. Occasional, on road-sides. S. America.

LYTHRACEAE.

Lythrum Hyssopifolium Linn. 3773. A weed of cultivation especially in moist places. Europe (and possibly indigenous in S. Africa.)

PASSIFLORACEAE.

- ***Passiflora caerulea** Linn. 4130. Along a stream in Gordons Bay, common but quite local. S. America.

UMBELLIFERAE.

Apium leptophyllum* (Pers.) F. v. M. 4393. **Marsh Parsley. A garden weed especially on well watered lawns. S. America, Australia. Now cosmopolitan.

Conium maculatum* Linn. 4678. **Hemlock. Near cultivation, Jonkershoek. Europe.

Daucus carota Linn. 3783. **Carrot.** Occasional on farm land. Sometimes in heavy grass growth. Europe.

Foeniculum vulgare Hill. **Fennel.** Common on road-sides and waste ground near habitation. Europe.

CAPRIFOLIACEAE.

Lonicera japonica* Thunb. 3751. **Japanese Honeysuckle. In shady woods, sometimes abundant, Somerset West, Stellenbosch. Japan.

Lonicera sempervirens* Linn. 3750. **Trumpet Honeysuckle. In similar places to the above but requires moister conditions and is not so common. United States.

RUBIACEAE.

Sherardia arvensis* Linn. 4823. **Field Madder. In open woods near the Lourens River. Europe.

COMPOSITAE.

Ambrosia artemisiaefolia* Linn. **Ragweed. Near habitation, Somerset West, not common. N. America.

Anthemis Cotula* Linn. 4549. **Stinking Chamomile. A garden weed, not common. Europe.

**Aster exilis* Ell. 3777. A garden weed. Seems to be a recent introduction and is spreading. Southern United States.

Bidens pilosa Linn. 3788. **Hairy Bur Marigold.** A weed of fairly moist places. Tropical and sub-tropical America, now cosmopolitan.

Centaurea melitensis Linn. 3622. **Malta Thistle.** A weed of waste ground and cultivation. Mediterranean.

Chrysanthemum carinatum Schousb. 4542. **Marigold.** On road-sides, sometimes growing in dense patches. Morocco.

Erigeron canadense Linn. **Canadian Fleabane, Horse weed.** Occasional, in moister places than the following species. N. America.

Erigeron linifolium Willd. 3549. **Flax-leaved Flea-bane.** A very common summer weed. *Conyza ambigua* DC. Vide Kew Bull. Misc. (1921), p. 282. Probably a native of the East Mediterranean and West Asia, now cosmopolitan.

**Erigeron mucronatus* DC. A common garden plant, sometimes found as a weed in lawns. Mexico.

- ***Galinsoga parviflora** Cav. A weed of moist places especially gardens and irrigated cultivation. S. America.
- Gnaphalium luteo-album** Linn. **Jersey Cudweed**. Fairly common in waste places. A cosmopolitan weed of uncertain origin.
- ***Helianthus annuus** Linn. **Common Sun Flower**. An occasional garden escape. N. America.
- ***Helminthia echinoides** (Linn.) Gaertn. 3628. **Bristly Ox Tongue**. Appears to be a recent introduction, which has spread rapidly in gardens and waste places. **Pieris echinoides** Linn. S. Europe.
- ***Inula graveolens** (Linn.) Desf. 3492. **Khaki weed**. A very common summer weed apparently of recent introduction. When the coast road from Steenbras to Kleinmond was constructed, this plant at once took possession of the loose soil on either side of the road. S. Europe.
- ***Lactuca scariola** Linn. 3778. **Prickly Lettuce**. Not common and only the form with lobed leaves seen. S. Europe.
- ***Schkuhria pinnata** (Lamk.) Thell. A common weed on a farm at Wellington. **S. bonariensis**. Hook and Arn. S. America.
- Senecio vulgaris** Linn. **Groundsel**. On vacant building plots and as a garden weed in Somerset West. Europe.
- ***Silybum Marianum** Gaertn. **Milk Thistle**. Abundant in Sir Lowry's Pass village growing in nearly pure stands. Occasionally seen elsewhere. Mediterranean.
- Sonchus asper** Hill. 3771. **Prickly Sow Thistle**. In similar and usually moister places to the following but not nearly as common. Europe.
- Sonchus oleraceus** Linn. **Sow Thistle**. An abundant weed of garden and cultivation. Europe.
- ***Tagetes minuta** Linn. **Khaki weed**. A summer weed of moist places. Not common. S. America.
- ***Tragopogon porrifolius** Linn. **Salsify**. Road-sides in Somerset West. Apt to be a troublesome weed on lawns as it is deeprooted. S. Europe.
- Urospermum picroides** (Linn.) F. W. Schmidt. A very common weed. S. Europe.
- ***Xanthium orientale** Linn. f. 4169. **Cocklebur**. Along the railway at Firgrove and elsewhere. Probably originally S. American, but now widely distributed as a weed.

ERICACEAE.

- ***Arbutus Unedo**. Linn. **Strawberry Tree**. Planted along a stream in Parel Vallei, Somerset West, and natural seedlings frequently appear in moist shady places. The growth of such seedlings is very slow and it

is often several years before they reach a height of one foot. S. W. Europe.

PLUMBAGINACEAE.

**Limonium sinuatum* (Linn.) Mill. 4816. On the sea front at the Strand, not common. Mediterranean.

PRIMULACEAE.

Anagallis arvensis Linn. **Pimpernel.** A very common weed. Flowers red or blue. Europe.

APOCYNACEAE.

Vinca major* Linn. **Periwinkle. Sometimes abundant in moist shady places. Appears to spread by vegetative means and not by seed. S. Europe.

ASCLEPIADACEAE.

**Araujia sericifera* Brot. 4396. In woods on either side of the Lourens river. Common in a hedge near Stellenbosch. Appears to be spreading. S. America.

BORAGINACEAE.

Echium violaceum Linn. 4376. **Vipers Bugloss.** Common and often abundant on road-sides and waste places. S. Europe.

CONVOLVULACEAE.

Convolvulus arvensis Linn. 3789. **Bindweed.** A weed of road-sides, hedges and cultivation. Abundant in the Strand. Europe.

Ipomoea Learii* Paxt. **Blue Dawn Flower. Occasional along streams in Stellenbosch and Somerset West. Tropical and sub-tropical America.

SOLANACEAE.

Datura Stramonium Linn. **Thorn Apple.** A common weed of gardens and cultivation. Probably indigenous to S. Europe, but now cosmopolitan.

Nicotiana glauca Grah. **Tree Tobacco.** Occasional on road-sides. S. America.

Solanum pseudocapsicum Linn. **Winter Cherry.** In shady woods, Somerset West. Possibly indigenous to Madeira, now cosmopolitan.

Lycopersicum esculentum Mill. **Tomato** and *Physalis peruviana* Linn. **Cape Gooseberry** are occasionally seen in rubbishy places near gardens.

SCROPHULARIACEAE.

***Linaria spuria* Mill. 3776. Rough-leaved Toadflax.** A very common garden weed. S. Europe.

****Mimulus moschatus* Dougl. 4036.** On damp sand in the bed of the Lourens river. N. America.

***Verbascum virgatum* Stokes 4482. Mullein.** Jonkershoek. Mediterranean.

BIGNONIACEAE.

****Campsis radicans* Seem. 3639. Trumpet Creeper.** A very troublesome weed when established on heavy clay soil. The roots are deep and run horizontally some two feet below the surface. Any pieces of root left in the soil grow again. The plant spreads rapidly by root suckers and by the long shoots which in the absence of support lie upon the ground and root readily at the nodes. It can be kept in check by heavy grazing. Somerset West, locally abundant. Southern United States.

ACANTHACEAE.

***Thunbergia alata* Boj. Black-eyed Susan.** In open woods near the Lourens river. Tropical Africa, Natal.

MYOPORACEAE.

****Myoporum serratum* R. Br. 3902. Manitoka.** Occasionally self-sown and spreads to some extent by root suckers. Australia.

VERBENACEAE.

***Lippia reptans* H. B. K.** Occurs occasionally as a lawn weed. Tropical America.

***Verbena bonariensis* Linn. 4037.** Road-side ditches, frequent. S. America.

***Verbena officinalis* Linn. Vervain.** A weed of gardens and waste places. Europe.

LABIATAE.

****Mentha Requienii* Benth.** Abundant as a lawn weed in a garden at Helshoogte. Corsica.

***Stachys arvensis* Linn. 4450. Field Woundwort.** A garden weed. Europe.

PLANTAGINACEAE.

****Plantago Coronopus* Linn. 4367. Crow's Foot Plantain.** Common near the sea at Strand. S. Europe.

***Plantago lanceolata* Linn. Ribwort.** Common on road-sides and waste ground. Europe.

AMARANTHACEAE.

- ***Amaranthus deflexus** Linn. 3793. A fairly common weed in Somerset West. S. America.
- ***Amaranthus hybridus** Linn. 3470. A weed of cultivation, common in places. Tropical America.

CHENOPODIACEAE.

- ***Atriplex hortensis** Linn. 4711. **Orach.** The red form, an escape from gardens, appeared in some abundance on the sea front at Strand but was not seen the following year. Asia.
- ***Atriplex Muelleri** Benth. 3651. Common on road sides at Strand, less frequent inland. Australia.
- ***Atriplex semibaccata** R. Br. 3558. **Salt Bush.** On road sides at Strand. Australia.
- ***Boussingaultia basseloides** H. B. K. In moist shady places, Somerset West. S. America.
- Chenopodium album** Linn. 3569. **Goosefoot.** A common weed from Europe, now cosmopolitan.
- Chenopodium ambrosioides** Linn. 3557. **Mexican Tea.** Waste places, frequent. Tropical America.
- Chenopodium murale** Linn. **Nettle-leaf Goose-foot.** A common weed of cultivation and waste places. Europe.
- Roubieva multifida** (Linn.) Moq. 3775. Common on waste land. S. America.
- ***Salsola kali** Linn. 3462. **Russian Thistle.** Common along the sea shore at Strand and apt to be troublesome to bathers as it is very prickly when old and dry. E. Europe.

PHYTOLACCACEAE.

- Phytolacca americana** Linn. 4028. **Pokeweed.** Near the Lourens river at Vergelegen, not common. N. America.

POLYGONACEAE.

- Polygonum aviculare** Linn. 3784. **Knotweed.** A summer weed, common. Europe.
- Polygonum Convolvulus** Linn. 3782. **Black Bindweed.** An occasional garden weed. Europe.
- Rumex Acetosella** Linn. 3785. **Sheep Sorrel.** Often abundant on poor sandy soil. Europe.
- Rumex crispus** Linn. 3761. **Curled Dock.** A weed in vineyards, not common, Somerset West. Europe.
- Rumex pulcher** Linn. 3760. **Fiddle Dock.** A common and troublesome garden weed. S. W. Europe.

LAURACEAE.

- ***Cinnamomum Camphora** Nees & Eberm. **Camphor Tree.** Grows in dense thickets on low lying ground near the Lourens river at Vergelegen. China and Japan.

PROTEACEAE.

- ***Hakea acicularis** Knight. 4084. Scattered along the Helderberg and Hottentots Holland mountains. Liable to spread rapidly after fire. Repeated burning will not control it as one year old seedlings can flower and ripen seed. Australia.
- ***Hakea suaveolens** R. Br. Not common and not aggressive. Australia.

EUPHORBIACEAE.

- Euphorbia Helioscopia** Linn. **Sun Spurge.** In waste places, not common. Stellenbosch. Europe.
- Euphorbia hypericifolia** Linn. 4846. A weed on farm land between Sir Lowry's Pass and Gordons Bay. Tropics.
- ***Euphorbia maculata** Linn. 3790. **Spotted Spurge.** A weed of garden paths, flower pots and road sides. N. America.
- Euphorbia Peplus** Linn. 3774. **Petty Spurge.** A common weed of gardens and shady places. Europe.
- ***Euphorbia serpens** H. B. K. 3792. In similar places to, and often growing with **E. maculata**. Tropical America.
- ***Euphorbia terracina** Linn. 4850. On the sea shore at Strand. Mediterranean.
- Ricinus communis** Linn. **Castor Oil Plant.** Occasional on road sides and waste places. Tropical Africa, but now cosmopolitan.

MORACEAE.

- ***Ficus Carica** Linn. **Fig.** Occasional in woods along the Lourens river. Asia Minor.

URTICACEAE.

- ***Helxine Soleirolii** Req. **Mother of Thousands.** An abundant weed in a garden at Helshoogte. Corsica.
- Urtica urens** Linn. 3805. **Stinging Nettle.** Weed of rubbish heaps near habitation. Europe.

FAGACEAE.

- ***Quercus robur** Linn. **Oak.** Frequently self-sown in moist places and along streams. Europe.

SALICACEAE.

- **Populus canescens* Sm. 3823. **Gray Poplar.** Only the male tree has been introduced. It spreads readily by root suckers and is often very common along streams. Europe.

PINACEAE.

- **Pinus pinaster* Ait. **Cluster Pine.** Common on mountain slopes and spreads readily by wind-borne seeds. Mediterranean.
- **Pinus pinea* Linn. **Stone Pine.** Common on flats and lower slopes. Regenerates freely but only near seeding trees as the seeds are not wind-borne. Mediterranean.
- **Pinus radiata* D. Don. **Monterey Pine, Insignis Pine.** Regenerates in moist ravines and on river banks. *Pinus insignis* Dougl. California.

LILIACEAE.

- **Allium triquetrum* Linn. 4091. On a road-side near Somerset West. Mediterranean.

COMMELINACEAE.

- **Tradescantia fluminensis* Vell. **Wandering Jew.** Forms the main ground cover in a poplar wood at Somerset West. S. America.

JUNCACEAE.

- Juncus bufonius* Linn. **Toad Rush.** A weed of wet places. Widely spread in the Northern hemisphere and probably introduced in South Africa.

CYPERACEAE.

- Cyperus esculentus* Linn. 4168. A garden weed of wet places. Both this and the following species are pests difficult to eradicate. Introduced from the north.
- Cyperus rotundus* Linn. **Nut Grass.** In similar places to the above and much commoner. Introduced from the north.

GRAMINEAE.

- Agrostis verticillata* Vill. 3529. **Water Bent.** Common along streams, irrigation channels, etc. Mediterranean.
- Aira caryophylla* Linn. 4448. **Hair-grass.** A garden weed in Somerset West. Mediterranean and mountains of tropical Africa.
- Anthoxanthum odoratum* Linn. 4803. **Sweet Vernal-grass.** In moist places, Jonkershoek. Europe.
- Avena barbata* Brot. 4225. **Slender Oat.** Common on road-sides and waste places. Mediterranean.
- Avena fatua* Linn. 4254. **Wild Oat.** In similar places to the above. Sometimes abundant as a weed of cultivation. Europe.

- Avena sativa** Linn. 4246. **Oat.** Occasional on farm land. Europe.
- Brachypodium distachyum** (Linn.) Beauv. 3612. Sand dunes at Strand and a garden weed in Somerset West. Mediterranean.
- Briza maxima** Linn. **Large Totter Grass.** Common in waste places and as a garden weed. Mediterranean.
- Briza minor.** Linn. 3918. **Small Totter Grass.** In similar places to the above. Mediterranean.
- Bromus Gussonii** Parl. A weed of waste ground. Mediterranean.
- Bromus japonicus** Thunb. 4918. In pasture land and waste places; common. Mediterranean.
- ***Bromus madritensis** Linn. 4825. In weedy places, Somerset West, not common. Mediterranean.
- Bromus molliformis** Lloyd. A garden weed. Mediterranean.
- Bromus unioloides** H. B. K. 3766. Common in waste places and as a garden weed. S. America.
- Chloris Gayana** Kunth. **Rhodes Grass.** Occasional on road-sides. Tropical Africa.
- Dactylis glomerata** Linn. 4835. **Cock's Foot.** In moist shady places, not common. Europe.
- Digitaria sanguinalis** (Linn.) Scop. 3770. **Crab Grass.** A common summer weed in gardens. Mediterranean.
- Echinochloa crus-galli** (Linn.) Beauv. 3786. In moist places with rich soil, occasional. Europe.
- Eleusine indica** (Linn.) Gaertn. **Crow's Foot Grass.** A common summer weed in the Strand. Introduced from the north.
- ***Eragrostis abyssinica** (Jacq.) Link. **Teff.** On farm land, not common. N. E. Africa.
- Eragrostis cilianensis** (All.) Link ex Lutati. 4031. Dry sandy soil, not common. **E. major** Host. Mediterranean to India.
- ***Gastridium ventricosum** (Gouan). Schinz & Thell. 3961. **Nit Grass.** A grass appearing late in spring or early summer. Stellenbosch, Somerset West. Mediterranean.
- Hordeum murinum** Linn. 3942. **Wild Barley.** Common on sandy soil, especially near the sea. Europe.
- Koeleria phleoides** (Vill.) Pers. 4274. Frequent on road-sides and waste ground. Mediterranean.
- Lagurus ovatus** Linn. 4297. **Hare's Tail Grass.** Common along a foot-path extending far into indigenous vegetation at Rooi Els. Mediterranean.
- Lolium multiflorum** Lamk. **Italian Rye Grass.** Common on road-sides and in pasture. Europe.

- Lolium rigidum** Gaudin. 3535. On sand dunes at Strand. Mediterranean.
- Lolium temulentum** Linn. **Darnel.** Common in waste places and as a garden weed. Europe.
- Oryzopsis miliacea** (Linn.) Aschers. & Schweinf. 4397. **Rice Grass.** Near the Eerste River in Stellenbosch. Mediterranean.
- ***Paspalum dilatatum** Poir. 3765. Common in fairly moist places. S. America.
- Paspalum distichum** Linn. 3625. **P. digitaria** Poir. Growing in water or very wet soil, Somerset West. America.
- ***Pennisetum clandestinum** Hochst. **Kikuyu Grass.** Extensively planted as a fodder grass and for lawns. Spreads readily by vegetative means, but no seedlings seen. East Africa.
- ***Pennisetum setaceum** Choiv. 4579. **P. Ruppellii** Steud. **Fountain Grass.** On the road sides, not common. Somerset West. Abyssinia.
- Pennisetum unisetum** Benth. 4594. In pasture land in moist places. Not common. Introduced from the north.
- Phalaris minor** Retz 3759. **Mediterranean Canary Grass.** Common on vacant building plots in Somerset West. Mediterranean.
- Poa annua** Linn. 3570. **Winter Grass.** Very common on road sides and as a garden weed. Europe, now cosmopolitan.
- ***Poa pratensis** Linn. **Meadow Grass. Kentucky Blue Grass.** Sometimes used for lawns and occasionally persisting as a garden weed. Europe.
- Polypogon maritimus** Willd. 4060. On the sea shore at Strand. Europe.
- Polypogon monspeliensis** Linn|. Desf. 4696. Fairly common in damp places. Possibly indigenous, but more probably introduced from Europe.
- Polypogon tenuis** Brongn. 4386. In similar places to the above, but not so frequent. Europe.
- Scleropoa rigida** (Linn.) Griesb. 4548. A weed of farm lands and gardens, not common. Mediterranean.
- Setaria verticillata** Beauv. 4829. A weed in a nursery garden at Strand. Introduced from the north.
- Vulpia bromoides** (Linn.) S. F. Gray. 4826. Frequent, often a weed in gardens. Mediterranean.
- Vulpia myuros** (Linn.) Gmel. 4804. In similar places to the above but not as common. Mediterranean.